217/782-2113

CONSTRUCTION PERMIT - NESHAP SOURCE

PERMITTEE

Wood River Refinery
Attn: Neal Sahni, Director Environmental
P.O. Box 76
Roxana, Illinois 62084

Application No.: 03080006 I.D. No.: 119090AAA
Applicant's Designation: Date Received: November 5, 2003
Subject: Hartford Integration Project
Date Issued: TO BE DETERMINED
Location: 900 South Central Avenue, Roxana

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of a Hartford Integration Project, that is, various changes to allow certain units at the former Premcor Hartford Refinery to resume operation in an integrated manner with the existing Wood River Refinery, as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1.0 Unit Specific Conditions

1.1 Unit: Hartford Integration Project

1.1.1 Description

On July 31, 2003, the ConocoPhillips "Wood River Refinery" purchased several assets from the adjacent Premcor "Hartford Refinery", which shutdown in October 2002. The proposed project will allow the Wood River Refinery to utilize certain process units physically located at the former Premcor Hartford Refinery:

No. 2 Crude Unit (Atmospheric and Vacuum Towers)
Coker and Coker Naphtha Hydrotreater (Unifiner)
Boilers #4 and #5
Cooling Towers
Selected Storage Tanks/Pressure Vessels
Associated Utilities and Infrastructure

The selected Hartford units will be integrated into the existing Wood River refinery via new interconnecting lines (piping). Numerous lines will be installed to move various process streams between the Hartford and Wood River facilities.

The process units that will be restarted at the Hartford facility will operate in accordance with their respective operating permits. This permit does not authorize changes to these existing units to increase their capacity. This

permit also does not address other existing Premcor units that the Permittee has purchased but does not currently have plans to operate, such as the Fluidized Catalytic Cracking (FCC) Unit. In addition to the emissions attributable to the operation of these units and the interconnections, this permit also addresses the Wood River facility, where emissions increases may result from handling material from heavier crude, as could be handled with the Hartford units.

Note: This Construction Permit does not address the petroleum bulk storage and loading terminal, which are covered under Premcor's CAAPP application.

1.1.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Fugitive Components	New Fugitive Components (valves, flanges, etc)	None

1.1.3 Applicability Provisions and Applicable Regulations

a. An "affected component" for the purpose of these unit-specific conditions, is a new component installed as part of the Hartford Integration Project as described in Conditions 1.1.1 and 1.1.2.

b. This permit is issued based upon the affected components being subject to National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries, 40 CFR 63, Subparts A and CC. The Illinois EPA administers the NESHAP for subject sources in Illinois pursuant to a delegation agreement with the USEPA. The Permittee shall comply with all applicable requirements of 40 CFR 63, Subparts A and CC.

Note: The Permittee has indicated that it generally complies with the equipment leak requirements specified in 40 CFR 63, Subpart CC by complying with the Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry 40 CFR 60, Subpart VV.

1.1.4 Non-Applicability of Regulations of Concern

a. The source has addressed the applicability and compliance of 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The limits and other provisions in this permit are intended to ensure that the

project addressed in this construction permit does not constitute a major modification pursuant to these rules, as further explained in Attachment 1. For this purpose, the Permit is relying on contemporaneous decreases in NO_x emissions at both the Hartford and Wood River facilities so that the net emissions increase is not significant.

i. A. This permit is issued based upon an increase of 17.3 tons of sulfur dioxides (SO_2) per year attributable to the increase in loading of sulfur at the sulfur plant.

B. This permit is issued based upon no increase in emissions of SO_2 at other units, including CCU-1 and CCU-2.

ii. This permit is issued based upon a net decrease of nitrogen oxide (NO_x) emissions at the Hartford and Wood River Refineries.

iii. This permit is issued based upon an increase of 7.4 tons of VOM per year attributable to the new affected components. No change in VOM emissions of other units is projected by the Permittee, as the change in feed stock should not affect VOM emissions.

iv. This permit is issued based upon no increase in carbon monoxide (CO) or particulate matter (PM) emissions as the Permittee has not identified any changes that would increase emissions of these pollutants.

Note: For the purposes of PSD applicability, this project has been addresses as a modification to the Wood River Refinery, since physical changes are occurring in this project, e.g., new piping, that allow certain units at the Hartford Refinery to operate in an integrated manner with the Wood River Refinery, a capability that did not previously exist.

1.1.5 Operational and Production Limits and Work Practices

a. All interconnections shall be above ground or have secondary containment so that any leaks can be readily identified.

1.1.6 Emission Limitations

a. Emissions of NO_x from the CCU-1 at the Wood River Facility shall not exceed the following limits. The limit on CCU-1 supersedes the limit previously established in Construction Permit 03030069, effective upon initial processing of feed material with higher nitrogen content, as prepared from the Hartford Crude Unit, pursuant to this permit. These limits shall be presumed to be the future projected actual emissions of these units for purposes of the records required by Condition 1.1.9(b)(i).

   i. CCU-1 shall not exceed 87.0 tons/month and 968.0 tons/year.

   ii. CCU-2 shall not exceed 55.0 tons/month and 500.0 tons/year.

b. Compliance with these annual limits shall be determined on a monthly basis from the sum of the monitored emission data for the current month plus the preceding 11 months (running 12 month total) (See also Condition 1.1.8).

1.1.7 Testing Requirements

None

1.1.8 Monitoring Requirements

a. The Permittee shall install, calibrate, maintain and operate continuous emissions monitoring systems for emissions of SO_2 and NO_x from the CCU-2. These monitoring systems shall be operated in accordance with 40 CFR 60.13 and Performance Specification 2, Appendix B, including associated recordkeeping and reporting requirements.

b. The installation and initial certification of these monitoring systems shall be completed by June 30, 2005.

Note: CCU-1 is required to have the installation and initial certification of SO_2 and NO_x monitoring system complete by June 30, 2004 pursuant to Construction Permit 03030069 for changes to the CCU-1.

1.1.9 Recordkeeping Requirements

a. The Permittee shall maintain the following operating records related to the CCU-1 and CCU-2 on at least a daily basis:

i. Total feed rate (barrels);

ii. Coke burn rate;

iii. Density, sulfur content of feed and nitrogen content of the feed. Records for the composition of representative feed streams may be kept once the continuous monitoring required by Condition 1.1.8 is operational;

iv. Residue rate; and

v. SO_2 and NO_x emissions on a daily basis, as determined by continuous monitoring in accordance with Condition 1.1.8 (or daily operating records and emission calculations, until such monitors are operational).

b. The Permittee shall carryout the following recordkeeping related to changes in emissions of SO_2, NO_x, CO and other PSD regulated pollutants:

i. The Permittee shall document and maintain a record of the following information for this project pursuant to 40 CFR 52.21(r)(6)(i). These records shall be completed before initial operation of any Hartford process units.

A. A description of the project;

B. Identification of the emissions unit(s) whose emissions of a regulated PSD pollutant could be affected by the project; and

C. A description of the applicability test used to determine that the project is not a major modification for any regulated PSD pollutant, including the baseline actual emissions, the projected actual emissions, the amount of emissions excluded under 40 CFR 52.21(b)(41)(ii)(c) and an explanation for why such amount was excluded, and any netting calculations, if applicable.

ii. A. The Permittee shall send a copy of the initial records to the Illinois EPA, including detailed documentation for the

historic SO_2 emissions of the sulfur plant, CCU-1, and CCU-2.

B. The Permittee shall submit a summary of any changes to these records to the Illinois EPA.

iii. The Permittee shall keep records for the emissions of any regulated PSD pollutant (other than NO_x) that could increase as a result of the project and that is emitted by any emissions unit identified in the above records (Condition 1.1.9(b)(i)(B)); and calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 10 years following resumption of regular operations after the change [40 CFR 52.21(r)(6)(iii)].

Note: This time period may be reduced to 5 years if the Permittee demonstrates that the project has not been accompanied by incidental increases in the design capacity of potential emissions of existing process units.

c. The Permittee shall maintain records of the following items for fugitive emissions from components:

i. Number of new components by unit or location and type in the Hartford Integration Project; and

ii. Calculated VOM emissions including supporting calculations, attributable to these components (tons/year), based on the methods in Condition 1.1.11(a).

d. The Permittee shall implement a de-SO_x catalyst program for the CCU-1 and CCU-2, which shall begin prior to startup of the new crude feed. The program shall include:

i. Capabilities of the catalyst under different usage rates;

ii. Projected emission levels and reductions from the use of de-SO_x catalyst;

iii. Target usage of de-SO_x catalyst.

1.1.10 Reporting Requirements

a. The Permittee shall notify the Illinois EPA of any deviations with the permit requirements as follows. Reports shall be submitted within 30 days. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.

b. The Permittee shall submit a report to the Illinois EPA if the annual SO_2 emissions of the following units exceed the level projected in the application:

Sulfur Plant: 144.3 tons
CCU-1 and CCU-2 (combined): 11,918 tons

c. The Permittee shall submit a report to the Illinois EPA and USEPA if the annual emissions of any PSD regulated pollutant, in tons per year, from this project (See also Condition 1.1.9(b)(i)), exceed the baseline actual emissions (as documented and maintained pursuant to 40 CFR 52.21(r)(6)(i)(c), by a significant amount (as defined in 40 CFR 52.21(b)(23) for that regulated PSD pollutant, and if such emissions differ from the preconstruction projection as documented and maintained pursuant to 40 CFR 52.21(r)(6)(i)(c). Such report shall be submitted to the Illinois EPA and USEPA within 60 days after the end of such year. The report shall contain the following [40 CFR 52.21(r)(6)(v)]:

i. The name, address and telephone number of the major stationary source;

ii. The annual emissions as calculated pursuant to 40 CFR 52.21(r)(6)(iii); and

iii. Any other information that the Permittee wishes to include in the report (e.g., an explanation as to why the emissions differ from the preconstruction projection).

1.1.11 Compliance Procedures

a. The emissions of VOM attributable to leaking components shall be based on the recordkeeping requirements in Condition 1.1.9 and applicable standard emission estimate methodology published by USEPA in "Protocol for Equipment Leak Emission Estimates", EPA-453/R-95-017 (November 1995).

b. Compliance with the NO_x emission limits in Condition 1.1.6(a) is demonstrated by determined by continuous

monitoring in accordance with Condition 1.1.8 (or daily operating records and emission calculations, until such monitors are operational).

2a. This permit is issued based upon the shutdown of the FCCU at the Hartford Facility. A construction permit will be required to prior to undertaking construction activity for the purpose of resuming operation of this unit. Prior to resuming operation, the FCCU would have to be equipped with a scrubber or equivalent device for control of SO_2 emissions, as well as other devices and features as required by applicable rules for the proposed resumption of operation of the FCCU.

b. A construction permit will be required by the Permittee prior to undertaking construction activity for the purpose of resuming operation of other process units at the Hartford Refinery which are not addressed by this permit.

3a. Operation is allowed under this construction permit until April 1, 2005.

b. The Permittee shall apply for a revised CAAPP permit no later than April 1, 2005.

If you have any questions on this permit, please contact Jason Schnepp at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:JMS:psj

cc: Region 3
Lotus Notes

Attachment 1

PSD Applicability - NO_x Netting Analysis

Contemporaneous Time Period of July 1999 Through July 2004

Table I – Emissions Increases and Decreases Associated With the Proposed Modification

Item of Equipment	Past Actual (Tons/Yr)	Future Potential (Tons/Yr)	Emissions Change (Tons/Year)
CCU-1	500.78	968.0	467.22
CCU-2	443.00	500.0	57.00
		Total:	524.22

Table II – Source-Wide Creditable Contemporaneous Emission Increases

Item of Equipment	Commencement of Operation Date	Emissions Increase (Tons/Year)
Rental Package Boilers	November 2000	11.00
RAU Deethanizer Reboiler	October 2001	24.82
Low Sulfur Gasoline	October 2002	99.22
CCU-1 Alterations	September 2003	1.79
	Total:	136.83

Table III – Source-Wide Creditable Contemporaneous Emission Decreases

Item of Equipment	Commencement of Operational Change Date	Emissions Decrease (Tons/Year)
Boiler 15 (Fuel Switch)	July 1999	24.6
Boiler 16 (Fuel Switch)	July 1999	36.2
CDU Charge Heater Shutdown	September 1999	3.3
DAU Oil Heater Shutdown	September 1999	1.5
DAU Asphalt Solution Heater Shutdown	September 1999	1.8
DU-2 Mixed Crude Heater West, F-202 (Fuel Switch)	May 2000	17.8
DU-2 Mixed Crude Heater East, F-203 (Fuel Switch)	May 2000	20.2
RAU Deethanizer Heater Shutdown	October 2001	19.6
CR-3 Charge Heater, H-4 (Fuel Switch)	November 2002	115.8
CR-3 1st Reheat Heater, H-5 (Fuel Switch)	November 2002	113.1
CR-3 2nd Reheat Heater, H-6 (Fuel Switch)	November 2002	86.7
DU-1 Primary Heater South, F-	February 2000	0.0

301 (Fuel Switch)		
DU-1 Secondary Heater North, F-302 (Fuel Switch)	February 2000	0.0
CR-1 Feed Preheat, H-1 (Fuel Switch)	February 2002	19.5
CR-1 1st Interreactor Heater, H-2 (Fuel Switch)	February 2002	19.1
CR-1 2nd Interreactor Heater, H-3 (Fuel Switch)	February 2002	32.1
Fluidized Catalytic Cracking Unit Shutdown at Hartford	October 2002	320.0
Reroute/Elimination of Flare Streams at Hartford	October 2002	17.4
	Total:	848.7

Table IV – Net Emissions Change

	(Tons/Year)
Increases and Decreases Associated With The Proposed Modification	524.22
Creditable Contemporaneous Emission Increases	136.83
Creditable Contemporaneous Emission Decreases	-848.70
	-187.65

PROJECT SUMMARY

I. INTRODUCTION

A construction permit application has been submitted by ConocoPhillips Company (Wood River Refinery) for the Hartford Integration Project, that is, various changes to allow certain units at the former Premcor Hartford Refinery to resume operation in an integrated manner with the existing Wood River Refinery. The conditions in the proposed permit for the project are based on the project not being a major modification under 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The proposed permit conditions include emission limitations, monitoring requirements, recordkeeping requirements, and reporting requirements.

II. SOURCE DESCRIPTION

On July 31, 2003, the ConocoPhillips "Wood River Refinery" purchased several assets from the adjacent Premcor "Hartford Refinery", which ceased operation and was put up for sale in October 2002. The proposed project would allow the Wood River Refinery to utilize certain process units physically located at the former Premcor Hartford Refinery:

No. 2 Crude Unit (Atmospheric and Vacuum Towers)
Coker and Coker Naphtha Hydrotreater (Unifiner)
Boilers #4 and #5
Cooling Towers
Selected Storage Tanks/Pressure Vessels
Associated Utilities and Infrastructure

The selected Hartford units would be integrated into the existing Wood River refinery via new interconnecting lines (piping). Numerous lines would be installed to move various process streams between the Hartford and Wood River facilities.

The process units that would be restarted at the Hartford facility would operate in accordance with their respective operating permits. The permit would not authorize changes to these existing units to increase their capacity. The permit also would not address other existing Premcor units that the Permittee has purchased but does not currently have plans to operate, such as the FCC Unit. In addition to the emissions attributable to the operation of these units and the interconnections, the permit would also address the Wood River facility, where emissions increases may result from handling material from heavier crude, as could be handled with the Hartford units.

The Construction Permit would not address the petroleum bulk storage and loading terminal, which are covered under Clark/Premcor's CAAPP application.

III. EMISSIONS

The only new emissions units that would be added to the refinery would be new fugitive components, such as valves and flanges, present in the

new piping. These fugitive components have the potential to emit volatile organic material (VOM) when a leak occurs.

These physical changes that would occur in this project, e.g., new piping, would allow certain units at the Hartford Refinery to operate in an integrated manner with the Wood River Refinery, a capability that did not previously exist. Because the former Premcor Hartford Refinery had the capability of handling heavier crude oil, emissions increases may result at the Wood River Refinery attributable to the handling of heavier crude.

These increases of pollutants, with the exception of nitrogen oxides (NO_x), from this project would be less than significant. For nitrogen oxides, the Permit would rely on contemporaneous decreases in NO_x emissions at both the Hartford and Wood River facilities so that the net emissions increase would not be significant. These decreases include the decreases in NO_x emissions associated with shutdown of various units at the Hartford refinery, including the Fluidized Catalytic Cracking Unit (FCCU), and the phase out of pitch as a fuel at the ConocoPhillips refinery. Accordingly, the project would not be a major modification pursuant to the federal rules for Prevention of Significant Deterioration (40 CFR 52.21). Detailed information on the changes in NO_x emissions at the refinery accompanying this project is provided in Attachment 1 of the draft permit.

IV. APPLICABLE EMISSION STANDARDS

All emission sources in Illinois must comply with the Illinois Pollution Control Board's emission standards. The Board's emission standards represent the basic requirements for sources in Illinois. The Board has standards for sources of nitrogen oxides, carbon monoxide, volatile organic material, sulfur dioxide, and particulate matter. This site readily complies with all applicable Board standards.

V. PROPOSED PERMIT

The conditions of the permit would contain limitations and requirements that are intended to assure that this project will not trigger the requirements of PSD. The permit sets limitations on emissions of NO_x from the FCC Units at the Wood River Refinery. The permit conditions also establish appropriate compliance procedures, including monitoring requirements, recordkeeping requirements, and reporting requirements. The Permittee must carry out these procedures on an on-going basis to demonstrate that the refinery is operating within the limitations set by the permit.

VI. REQUEST FOR COMMENTS

It is the Illinois EPA's preliminary determination that the facility meets all applicable state and federal air pollution control requirements, subject to the conditions proposed in the draft permit. The Illinois EPA is therefore proposing to issue a permit for this project.

Comments are requested on this proposed action by the Illinois EPA and the proposed conditions on the draft permit.

JMS: